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AERONAUTIC ACCIDENTS OF TWO YEARS COMPARED

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ON September 16, 1919, the Los Angeles Chamber of Commerce created a department of meteorology and aeronautics and this newest creation in any commercial organization took for its motto "To make the Soil productive and the Air safe." The manager being both a meteorologist and an aeronaut has been able to apply the principles of weather science *directly* to problems of agriculture and aeronautics. The first is being accomplished through climatic surveys of agricultural districts, and the second by making all sources of meteorology available to air pilots. Realizing the necessity of accurate data on which to base the relation of weather to aeronautic accidents, statistics as to flying activities have been collected day by day from the press dispatches during the past two years. While the period is admittedly very short, it is believed that sufficient data have been collected to show the relative importance of weather elements in aerial navigation, the proportionate value of the other factors, and the comparison of these compilations one year with the other.

As has been well said: "An airplane accident is hardly ever due to a single cause. Usually several factors are involved * * * An error in judgment by the pilot is perhaps the most common cause of airplane accidents."[1] Bearing this fundamental in mind we will consider first the statistics of the year 1920-21.

Figures as to airmileage are not available, neither is information as to the airworthiness of the various kinds of aircraft, or the airmanship of the pilots: such phases of the subject, will, of necessity, be neglected in this study.

During the twelve months ending September 15, 1921, there were reported from various parts of the United States 76 aircraft accidents in which 137 deaths occurred. This was more than twice as many as occurred during the previous year. Fifty-eight per cent. of the fatalities occurred among government airmen, 31 per cent. in commercial flying, and 11 per cent. among spectators in ground accidents.

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[1] *Airplanes and Safety*, The Travelers Ins. Co., Hartford, Conn., 1921.

The classification of deaths among officers and others connected with the government shows the following distribution:

Army	59 per cent.
Navy	19 per cent.
Air mail	17 per cent.
Forest patrol	5 per cent.

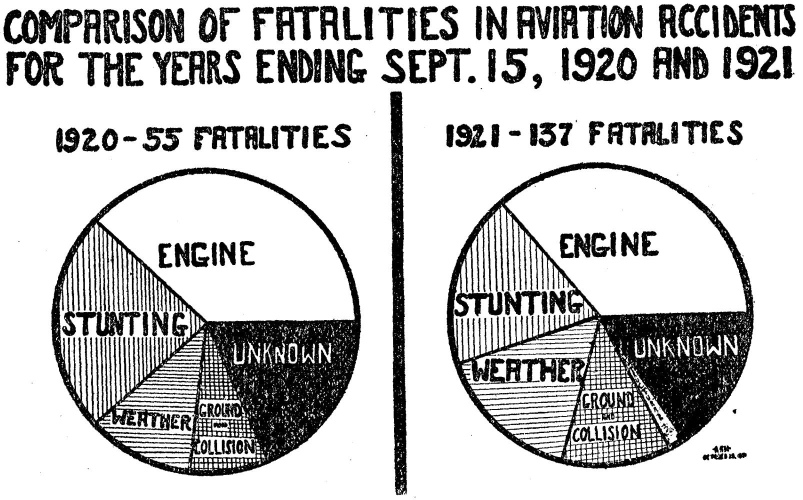
The kind of aircraft in which fatalities occurred are classified thus:

Airplane	83 per cent.
Seaplane	12 per cent.
Balloon	4 per cent.
Parachute	1 per cent.

Comparing the causes of all aeronautic fatalities one year with another we have this table:

	1920	1921
Engine trouble	38 per cent.	36 per cent.
Stunting	24 per cent.	19 per cent.
Weather conditions	11 per cent.	16 per cent.
Collisions	9 per cent.	12 per cent.
Structural defects	0 per cent.	2 per cent.
Unknown	18 per cent.	15 per cent.

Prepared by the *Dept. of Meteorology and Aeronautics of the Los Angeles Chamber of Commerce.*



FLYING FATALITIES OF 1920 AND 1921 COMPARED

The segments of the circles show the percentage of fatalities in all kinds of aviation accidents from five known and one group of unknown causes. It is instructive to note that while stunting as a death-producing feature has decreased from 24 per cent. to 19 per cent., engine trouble still remains the prime cause. The weather conditions of 1920-21 were no more unpropitous than those of 1919-20 so that the increase from this cause from 11 per cent. to 16 per cent. may be laid to the ignorance or disregard of weather indications.

As will be observed by perusing the accompanying diagrams the proportion of accidents resulting from the principal causes remains unchanged. Notwithstanding the advances made in motor construction during the past year fatalities arising from faulty engines was decreased only 2 per cent. Stunting accidents dropped off 5 per cent., probably because of the dulling of the public appetite for such acrobatics. Weather conditions are shown to be an increasing cause of accidents doubtless due to the pilots' insufficient meteorological knowledge. There were an increasing number of collisions in midair and with spectators. Structural defects, as such, first appeared last year as the cause of 2 per cent. of the fatalities.

Transportation over the sea, on the land and through the air will never be rendered absolutely safe for we have to deal with human fallibility and the changing elements. It is only needful to call attention to the fact that notwithstanding long familiarity with the water, marine accidents show little diminution in proportion to the passenger-mile. With railroads such is not the case for vigilence and scientific control have reduced fatalities most markedly during the past decade. However, that next newest method of transportation, the automobile, does not show a decrease in the number of people killed by it, but rather an increase. As to aerial locomotion, a study of accidents indicates five ways of making it safe and dependable:

1. Improve the motor in dependability; devise a new motive power if necessary.
2. Absolutely eliminate stunting by penal statute except as a military measure.
3. Educate the pilots in meteorology; make every airman a meteorologist as every mariner is weatherwise.
4. Increase vigilance in the inspection of aircraft.
5. Strict supervision of flying fields and the education of the public in their attitude towards aerial navigation.

Public confidence in practical aeronautics will come with increased safety: no other element is so vital. That the air will be made safe for general transportation is assured for the need is imperative. Time is the only inelastic thing given to man and everyday flight, outdistancing the locomotive or the automobile, is the only way in which the busy man may increase his day's work by annihilating time.